

PCB 板载蓝牙天线测试报告

PCB BT Antenna Test Report

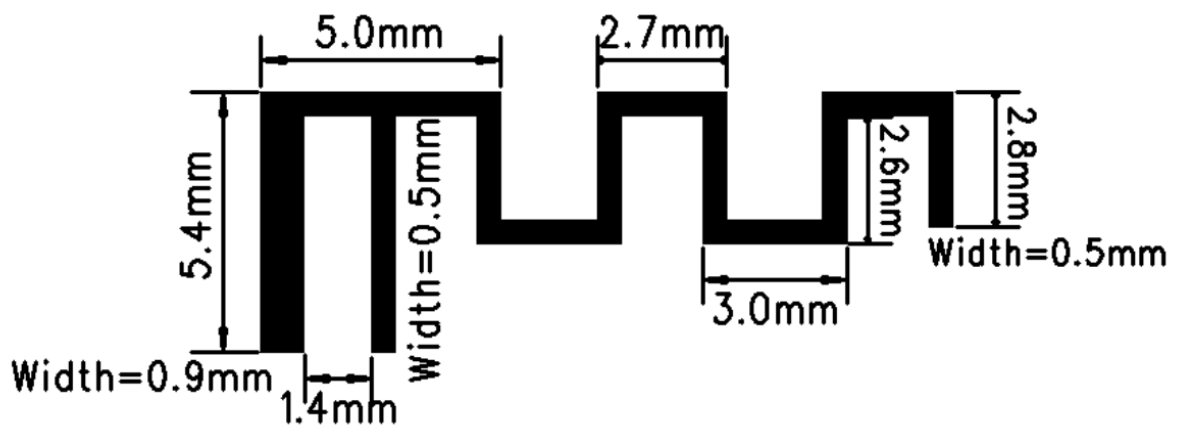
一、天线简介/ Introduction of antenna

蓝牙天线直接采用做在主板 PCB 板上的方式，天线为铜箔加喷锡工艺，铜箔厚度：1OZ，板材为 FR-4 厚度 1.2mm 材料。

Our Bluetooth speaker's antenna is directly made on the Main PCB board. The antenna is copper potable tin injection process, copper foil thickness: 1OZ, sheet material is FR - 4 thickness 1.2mm material.

二、天线外形/ Antenna shape 1.尺寸

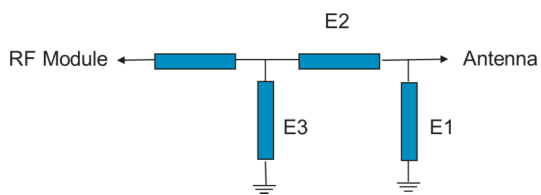
图/ Size :



2.实物图/ Picture :



三、天线参数/ Antenna parameters



	Element	Value
	E1	no changes
	E2	no changes
	E3	no changes

蓝牙天线工作频率在 2402-2480MHz，在此频段产生谐振。下表为天线的主要参数。

The Bluetooth antenna operates at 2402-2480MHz and generates resonance in this frequency band. The next table is the main parameter of the antenna.

蓝牙内置天线/Bluetooth built-in antenna	
Frequency (MHz)	2402 ~ 2480 MHz
VSWR	≤ 3.23
Impedance	50 Ohm Nominal
Return Loss	-6.18 dB Max
Radiation	Omni-directional
Gain (Peak)	3.34 dBi
Polarization	Linear, Vertical
Admitted Power	2W
Connector	Tin

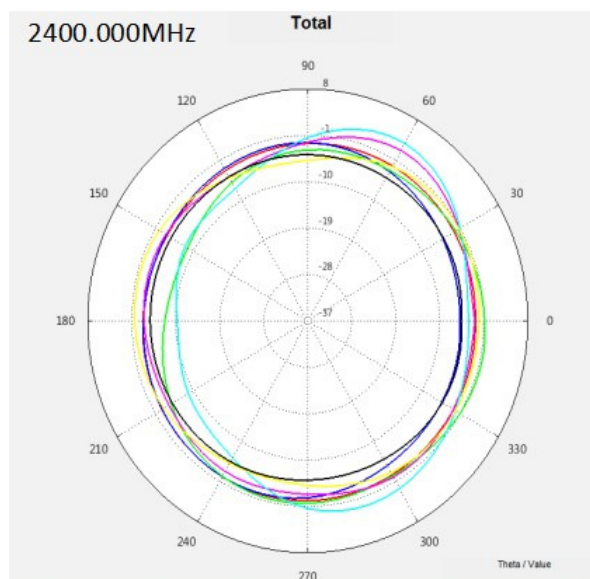
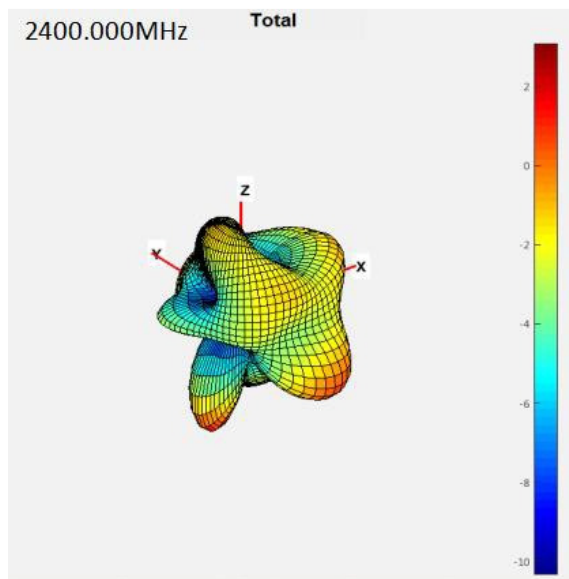
四、天线增益检测报告/ Antenna gain detection report

Spectrum Detector:	Agilent E5071B	Test Date :	Oct 13, 2023
Test By:	Tang	Temperature :	21°C
Test Result:	PASS	Humidity :	65 %
Modulation:	GFSK		

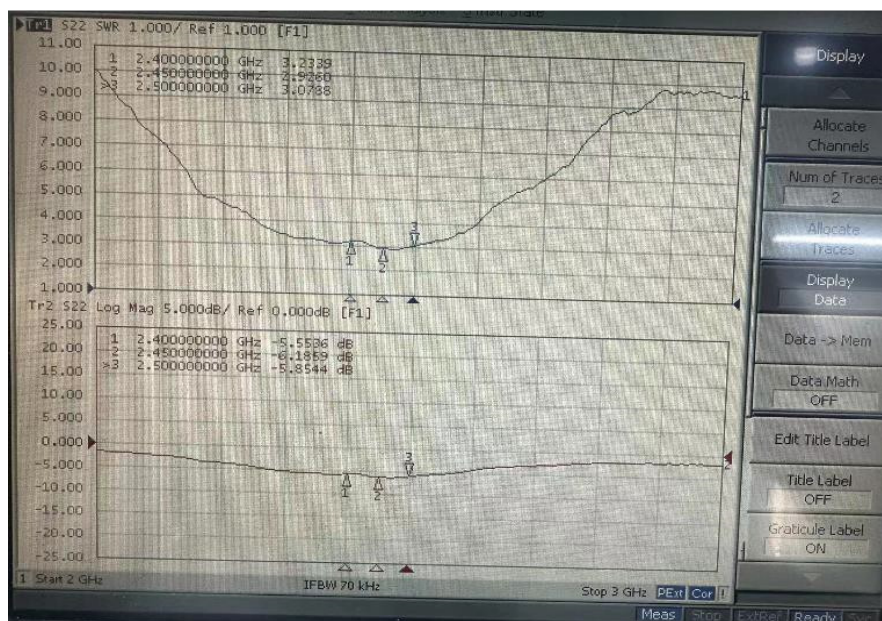
最大增益值/ Maximum gain value

Frequency	Efficiency (%)	Gain (dBi)
2.4GHz	35.36	2.78
2.41GHz	35.94	2.93
2.42GHz	36.46	3.08
2.43GHz	35.83	3.08
2.44GHz	36.41	3.26
2.45GHz	37.43	3.34
2.46GHz	38.9	3.08
2.47GHz	37.59	2.97
2.48GHz	36.22	2.71
2.49GHz	35.01	2.59
2.5GHz	33.91	2.12

方向图/ Directional map:



驻波比图/ Bobbi map:



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Learn more [at http://www.rtant.com](http://www.rtant.com)

Date: 2023-10-13

Version: V1.0

Project leader: Jiang Lei

Test items	Test Equipment
S11, S12, VSWR, LOSS	Network analyzer E5071B, E 8753D
Efficiency, Gain, 3D Radiation Pattern	Satimo SG16 darkroom, Taiwan's top ten 7*4*3 darkroom , E5071B, second generation head
TRP, TIS	Satimo SG16 darkroom, Taiwan's top ten darkrooms, CMW500 , second generation head

